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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,371	06/27/2001	Yutaka Onozawa	1217-010927	5541

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EXAMINER
EGAN, BRIAN P

ART UNIT	PAPER NUMBER
1772	

DATE MAILED: 11/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/894,371

Applicant(s)

ONozAWA ET AL.

Examiner

Brian P. Egan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5,8,9,11,12,16,19,20 and 29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5,8,9,11,12,16,19,20 and 29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

Request for Information

1. Although the Examiner agrees that the phrase “Charpy impact strength” has been used in prior United States Patents, the Examiner requests that the Applicant submit a copy of Japanese Industrial Standard K-7111 or ISO 179 so that the record can clearly indicate exactly how the Applicant intends to define “Charpy impact strength” or delete the phrase “Charpy” to indicate that the Charpy impact strength is no different than merely stating “impact strength.”

Claim Interpretation

2. The Examiner erroneously withdrew the rejection of Claims 1, 5, 8-12, 16, 19-20, 24, and 27-28 in the advisory action (paper no. 8) over the teachings of JP-11-309813 in view of Welhart et al. (#3,810,815). Even though the Applicant’s omitted polymethyl methacrylate resins from the Markush group in Claim 1, the Examiner was not precluded from changing the interpretation of Welhart et al. such that the PMM layers of Welhart et al. are considered to be the “first resin” and the single polycarbonate layer is the “second resin” – the Examiner, however, maintained that because Welhart et al. teach multiple PMM layers and only one polycarbonate layer, the teachings of Welhart et al. failed to read on the Applicant’s claimed invention when used in combination with JP ‘813. This conclusion was in error and the Examiner retains the rejection that the aforementioned claims are rendered obvious over the teachings of JP ‘813 in view of Welhart et al.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 5, 8-9, 11-12, 16, 19-20, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP-11-309813 in view of Welhart et al. (#3,810,815).

JP '813 teaches a hard coat film comprising a silicone-based hard coat layer provided on one side of a multi-layered base composed of a plurality of different laminated resin films (note that all film layers adjacent the hard coat layer are considered as part of a base structure) (pgs. 2-7, paragraphs [0003-0010]). The base comprises a weather-resistant resin film (p.2, paragraph [0003]), thereby inherently impact resistant, wherein the base film comprises films made from materials such as PET, PC, acrylic resins, polyester system resins, polyurethane resins, and butyral resins (p. 3, paragraph [0005] and p. 5, paragraph [0008]). The hard coat layer is provided on the weather-resistant resin film wherein the weather-resistant resin film comprises an ultraviolet absorber (p. 3, paragraph [0005]). A release sheet is provided via an adhesive layer on a side made of the multi-layered base opposite to a side provided with the silicone-based hard coat layer (pgs. 6-7, paragraph [0010]). The hard coat film is stuck on external surfaces of window panes and plastic boards for windows (pgs. 6-7, paragraph [0010]).

JP '813 fails to teach multiple layers of the same resin being used in the hard coat film substrate. JP '813 also fails to teach the use of another resinous layer with a specific impact

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strength. Note, however, that the second layer as claimed by the Applicant is not a positive limitation (i.e. “optional” language is used) and therefore given no patentable weight. Prior art need not teach the “optional” second layer to establish a *prima facie* case of obviousness under 35 U.S.C. 103(a).

Welhart et al., however, teach the use of a multilayered transparent laminate comprising a polycarbonate resin film layer (defined by the Examiner as the “second resin layer”) surrounded by two layers of polymethyl methacrylate resin (defined by the Examiner as the “first resin layer”) (Col. 3, lines 17-20) that can be applied to the external surfaces of window panes (“suitable for use in windows, windshields, and canopies of aircraft[s]” – Col. 2, lines 35-40). Welhart et al. teach that the polycarbonate layer thickness is modified to withstand the forces applied to the desired end product and explicitly teach that the polycarbonate withstands pressures of greater than 8 psi (Col. 6, lines 40-52). Welhart et al. also teach that the PMM layer remains intact at these pressures (Col. 6, lines 45-46) – ultimately resulting in a laminate that withstands forces at high speeds. Therefore, it would have been obvious to one of ordinary skill in the art at the time Applicant’s invention was made to have modified the thickness of the polycarbonate layer within the Applicant’s claimed thickness range insofar as the laminate withstands the pressures applied to the end product. Furthermore, it would have been obvious to one of ordinary skill in the art at the time Applicant’s invention was made to have modified the thickness of the polymethyl methacrylate resin layer (the “first resin layer”) such that it exhibits an impact strength within the Applicant’s claimed range (i.e., greater than 10 kg cm/cm²) since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Such a

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modification in thickness would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made since the PMM layer must be sufficient in thickness to remain in tact at high pressures (Col. 6, lines 45-46) and to protect the surface of the polycarbonate layer from scratches and solvents (Col. 5, lines 60-75). Welhart et al. teach the use of the multilayered film for the purpose of replacing the use of either a single polycarbonate film layer or a single polymethyl methacrylate film layer such that the multilayered structure achieves the advantages of both acrylic and polycarbonate including weatherability and impact resistance (see Columns 1-2). Thus, it would have been obvious through routine experimentation to one of ordinary skill in the art at the time Applicant's invention was made to have modified a single-layered base layer structure of either polycarbonate or polymethyl methacrylate with a multilayered structure comprising two layers of PMM and an intermediate layer of polycarbonate for the purpose of replacing the use of either a single polycarbonate film layer or a single polymethyl methacrylate film layer such that the multilayered structure achieves the advantages of both acrylic and polycarbonate including weatherability and impact resistance as taught by Welhart et al.

Therefore, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have modified JP '813 by replacing the single layered base with a multilayered film of PMM and polycarbonate as taught by Welhart et al. in order to replace the use of either a single polycarbonate film layer or a single polymethyl methacrylate film layer such that the multilayered structure achieves the advantages of both acrylic and polycarbonate including weatherability and impact resistance.

Response to Remarks

5. Applicant's arguments, see paper no. 11, filed September 5, 2003, with respect to the teachings of Hojnowski ('175), Russell et al. ('400), and Onozawa et al. ('370) have been fully considered and are persuasive. The 35 U.S.C. 103(a) rejections of claims 1, 5, 8-12, 16, 16, 19-20, 24, and 27-28 utilizing these prior art references have been withdrawn.

Neither Hojnowski nor Russell et al. teach a multi-layered base consisting of a plurality of the same first resin film and optionally one or more of a second resin film. Instead, both of the aforementioned references teach multi-layered base structures comprising multiple other component layers including metal and adhesive layers (Hojnowski) and multiple layers of inorganic dielectric material (Russell et al.) – omitting these layers such that the aforementioned references consist only of a hard coat layer and a multi-layered base consisting of the same first resin film and optionally one or more of a second resin film would destroy the desired end products sought by the prior art and therefore it would not have been obvious to one of ordinary skill in the art to omit these layers from the teachings of Hojnowski and Russell et al.

With regards to the teachings of Onozawa et al., the reference is no longer considered a prior art reference based on the Applicant's statement of common ownership.

6. Applicant's arguments with respect to claims 1, 5, 8-9, 11-12, 16, 19-20, and 29 over JP '813 in view of Welhart et al. have been considered but are not persuasive.

The Applicant's only contention with regards to these prior art references is that Welhart does not disclose applying the laminate to glass and therefore fails to render obvious the Applicant's claimed invention. The Examiner respectfully disagrees on several grounds. First, the Applicant claims "wherein the hard coat film is applied to the external surfaces of window

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panes or plastic boards for windows” – this limitation does not limit the claim to applying the laminate to glass (nor does the claim even mention glass), but rather allows for application of the laminate to window panes and plastic boards. Welhart et al. explicitly teach that the laminate is suitable for use in windows, windshields, and canopies of aircrafts (Col. 2, lines 35-42) and therefore teach the use of the laminate for application to window panes and implicitly teach the use of the laminate in combination with a plastic board for windows. Second, it has been held that one cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references. *In re Keller*, 208 USPQ 871 (CCPA 1981). The test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. *In re McLaughlin*, 170 USPQ 209 (CCPA 1971). Taken as a whole, the teachings of Welhart et al. and JP ‘813 clearly teach the use of a hard coat film in combination with a resinous base layer that may be applied to external surfaces of window panes or plastic boards for windows – therefore, the Examiner maintains the validity of the above rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian P. Egan whose telephone number is 703-305-3144. The examiner can normally be reached on M-F, 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Harold Y. Pyon can be reached on 703-308-4251. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9310.


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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


BPE 11/12/03


HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772 11/14/03